CAST UP BY THE SEA.

BY E. W. ROPER, REVERE, MASS.

While cleaning up the trophies of a recent successful trip to the beach, I wondered if my fellow shell collecters, who live near the seashore, appreciate the need of closely following up the storms. It is not enough to go occasionally. The beach ought to be searched every time a strong on-shore wind brings in a heavy surf. And the visit ought to be made at the first low tide. Another flood tide with change of wind may bury the most precious treasures under the sand. I may go nineteen times to the three-mile beach near my home, and get nothing new, although I should never come home empty handed; but on the twentieth visit a shell is found of a species I have not before collected. Once it was a little red *Margarita undulata;* and again a *Bela harpularia.* Only the enthusiastic collector knows the peculiar pleasure of such discoveries, and only the collector experiences a pang at the sight of some rare shell hopelessly broken, as I have many times seen the fragile *Thracia conradi.* The latter and other bivalves live beyond low-water mark, very likely so deep in the sand that a dredge would pass over them. But in a heavy easterly gale the great breakers, pounding on the outer bar at low tide, plow up their home, and rolling over and over, the helpless shells are brought to shore by the incoming tide. It is noticeable that seldom do two storms bring in a similar class of shells.

I remember one gale which literally strewed the beach with tens of thousands of the "little amethystine gems" which Totten called *Venus gemma.* Another time the razor shells and the pretty *Machæra costata* will suffer, and again the prevailing species will be *Lunatia, Buccinum* and *Fusus.* Eight times, in as many years, I have found the large *Solemya borealis,* twice alive. The little *S. velum* is more common. Once I captured a living *Pecten tenuicostatus* of large size. How violently he opened and shut his shell when placed in a shallow pan of fresh water! But in spite of assiduous collecting I can note less than seventy marine shells found in Revere. Doubtless collectors on more southern shores can find a greater variety.

GENUS MAKING.

BY CHAS. T. SIMPSON, TAGGART, MO.

Genus making is the fashion now-a-days with a certain school of conchologists. Parties addicted to this work have access to good

libraries and an extensive collection of shells, and their whole aim in life seems to be making new genera. In some one of the older groups a few species are found, having a certain peculiar pattern of sculpture or coloring, or some little singularity in the fold of the columella or hinge teeth, and presto, a genus is formed and the science is burdened with another name!

These genus-makers never stop to see whether this slight peculiarity does not imperceptibly shade out into other species which are not as marked; this is no business of theirs; the main point seems to be the attaining of a sort of cheap reputation for scientific knowledge.

According to Tryon's Structural and Systematic Conchology, there were, at the time of its publication in round numbers, about 6,000 of these so-called genera, besides a great many synonyms, a number which has been largely increased since that date. Even the old genus Helix, without Nanina and Zonites, has some 200 of these names, many of which have never been characterized. No doubt our increasing knowledge and the good of the science has demanded that some of these older genera should be divided. In days gone by the name Pyrula embraced a large proportion of the marine univalve shells, having a short spire and lengthened canal, while Fusus included about all with a similar canal and elevated spire. So Buccinum was a miscellaneous group, characterized principally by a notch at the base of the aperture. As now generally recognized, Pyrula includes only pear-shaped shells of thin papyraceous structure, Fusus a sort of spindle-shaped species, and Buccinum a small, well-defined, perfectly natural group.

I am aware that those who favor this dismemberment of the older genera claim that many of these groups are too large for studying advantageously, and that the variation from the type of a genus is very gradual through long series of species, to forms which are so different from the type that no description will cover the whole, and the very ambiguous description of Helix is quoted as an example of this. Mr. Binney, in the Manual of American Land Shells, says: "In common with all who have studied the Pfeifferian genus *Helix*, I have long been convinced of the necessity of recognizing among its species numerous distinct genera. * * * Before recognizing these groups as distinct genera, I desire to wait until we can ascertain whether generic characters can be found in the jaws and lingual dentition, as well as in the shells. Convinced that characters cannot be found in these organs, or in the genitalia, I adopted, in that work,

(Terr. Moll., U. S.) the dismemberment of the genus so much demanded by the number of its species, founding the distinction on the shell alone."

It was as if the court had made up its mind beforehand, but had waited for the evidence to establish the decision, and when the evidence did not support it, the decree was rendered just as the court had intended all along. Many of these so-called genera of Helix have no value at all, and others so little as to be almost worthless for purposes of classification. Our well-known Mesodon runs into Triodopsis, and Arionta and Aglaia cannot always be separated. Tryon at one time placed Helix devius, Gould, in the genus Mesodon, and at another time he, as well as Mr. W. G. Binney, called it a Triodopsis. Tryon put Arionta townsendiana, Lea, in the genus Mesodon, and Mr. Binney regards Aglaia hillebrandi, Newc., as a varietal form of Arionta mormonum. And I might give such illustrations to the end of the chapter, all of which go to show that even among the savants these so-called genera are well nigh valueless.

But let us suppose that in any of the larger genera there is a chain of species varying from the type to those which are very unlike it; that the variation is very gradual throughout the species. I cannot see that dividing such a genus into a dozen, a hundred, or a thousand genera is going to help the matter or give us any clearer insight into the relationship of the species. I think that the classification should be founded on nature, or in other words, that nature should do the classifying, and that our efforts should be directed to deciphering the Old Dame's work. And if a distinction does not exist between certain so-called species and genera, it is useless to put it there, as it will simply require that somebody in the future, when the truth is reached, will have to throw it out.

The genus Unio, with its thousand species and endless variations, has been divided into a number of sub-genera by the genus makers; but a Unio is a Unio for all that, and the merest novice in conchology would recognize it as such in a moment; while probably not one conchologist in a hundred could tell a Bariosta, Raf., from a Hyridella, Swains. Dr. Isaac Lea showed his great knowledge of this subject when he grouped them into mere divisions founded on form and sculpture.

I think the time has come when a healthful reaction from this fever of creating genera and species should set in. Such work simply renders the science of conchology contemptible, and it is a veritable

stumbling block to the ranks of the beginners. To these the science should be rendered as simple and attractive as possible, and they should rather be encouraged than discouraged by a formidable array of names without meaning. No one but an expert, a closet naturalist, who sits in his snug alcove, surrounded by scientific books and collections, and who devotes his entire time to the study, can keep track of the names introduced by this mania, and I doubt if many of these can do it.

The old landmarks of the noble science are going one by one, and we should seek to fill the ranks from the young and enthusiastic, from those who have a living to make, and cannot devote their whole time to puzzling over a lot of names that even their authors did not comprehend, and only inflicted upon the world for the sake of gaining notoriety.

STRIÆ.

Paludina scalaris, Jay. Apropos of Mr. Pilsbry's interesting note on this species, I would call attention to the fact, which does not seem to be well understood, that *Ameria* has been shown *in toto* to belong not to the *Physidæ*, where it was originally placed, but to the *Limnæidæ*. As there are rounded and carinate *Planorbis*, so there are rounded and carinate *Ameria*. Whether *Ameria* is more or less than a section of *Planorbis* is a question, but it seems to me that the high form of the shells is at least as well worthy of recognition by a name as *Gyraulus*, *Helisoma*, and other forms commonly so recognized. Whether *A. scalaris* belongs to the Limnæinæ or the *Planorbinæ* should be easy of determination since the form of the tentacles would serve to decide this at a glance. Wm. H. Dall, Smithsonian Institution, Washington, D. C.

Patula cooperi, in Colorado and Utah. This interesting species is extremely common in parts of Colorada, and also, it would appear, in the Wahsatch Mountains of Utah, where it is accompanied by four others of the same group. It is decidedly variable and for reference it may be useful to class the principal varieties as follows: a. *typica*, the ordinary form in Colorado, with two distinct bands, diameter 19 to 25 mill.; b. *elevata*, spire elevated, Utah (Hemphill) and Colorado, a specimen found by Surface Creek, Delta Co., had alt., 12½, and diam. 16 mill; c. *minor*, very small, Utah (Hemphill); d. *confluens*, bands confluent, shell therefore brown with a broad white band above the periphery and a white umbilical region, Col-